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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/812,296

Applicant(s)

RITTMASER ET AL.

Examiner

KHANH H. LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40, 41, 47-50 and 56-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-41, 47-50, 56-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/02)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to the correspondence filed 06/28/10. Claims 40-59 were pending. Claims 60-64 are added. Claims 42-46, 51-55 are cancelled. Thus claims 40-41, 47-50, 56-64 are pending. Claims 40, 49 and 59 are independent and amended.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 40-41, 47-48 and 49-50, 56-58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.**

Claim 40:

40. (Currently Amended) *A method for controlling the distribution of information from an information provider processor to a plurality of recipient processors on a communications network, based on the geographic locations of the recipient processors, the method comprising:*

a) connecting the information provider processor for communication on the communication network with the plurality of recipient processors that each have an associated, respective positioning system for providing location information to the associated recipient processor;
b) receiving location information from each recipient processor, the location information corresponding to the geographic location of the recipient processor from which the location information is received;

c) determining, from the location information, that the geographic location of each of one or more of the recipient processors from which the location information is received is within a predefined location or region and

determining that each of another one or more of the recipient processors from which the location information is received is not within the predefined location or region;

d) requiring predefined additional information before providing each recipient processor

determined to be within the predefined location or region access to first information by the provider processor; and
e) providing each recipient processor not determined to be within the predefined location or region with access to first information by the provider processor without requiring the predefined additional information;
f) wherein the additional information comprises current time information.

The support for the specific combination of steps as claimed cannot be found. The closest support found are [0063]-[0064] and Fig 3 of the specification, published version US 20020023010.

[0063] where t , is the preselected time period, $t_{sub.1}$ is the time at which the request (and/or location information) was received by the server, and $t_{sub.2}$ is the time corresponding to the time information received from the requesting user device. Other suitable algorithms or like means may be used to determine whether or not $t_{sub.2}$ is acceptable for a given user computer request. A step 40 for testing the acceptability of the time $t_{sub.2}$, can improve the reliability that the location information was not pre-generated and recorded at another region. Thus, time testing step 40 can provide a greater confidence to the provider that the location information in a given request was generated by a positioning system at the same location (or at least within the same local region) as the requesting user device and at about the same time that the requesting user device is making the request.

[0064] In the FIG. 3 embodiment, the determination of whether or not the time information received from the requesting user device corresponds to an acceptable time (step 40) is carried out following the determination that the requesting user device is within a non-restricted region or, at least, a limited access region (step 34). However, in other embodiments, the acceptable time determination step (step 40) may be carried out before the region restriction determination step (step 34), such that the request is tested for an acceptable time prior to being tested for an acceptable geographic region. In such an embodiment, if the time $t_{sub.2}$ is determined to be not acceptable, then access would be denied (step 36). The process would not proceed to the region-restriction determination step (step 34) unless the time $t_{sub.2}$ is determined to be acceptable in the time determination step.

Yet they do not clearly show the combination of steps d) e, f) as above cited, and especially not steps e) and f);

e) providing each recipient processor not determined to be within the predefined location or region with access to first information by the provider processor without

***requiring the predefined additional information;
f) wherein the additional information comprises current time information.***

If Applicant disagrees please point to the specific support for the combination as claimed.

Claim 49:

A method for controlling the distribution of information from an information provider processor to a plurality of recipient processors on a communications network, based on the geographic locations of the recipient processors, the method comprising:

*a) connecting the information provider processor for communication on the communication network with the plurality of recipient processors that each have an associated, respective positioning system for providing location information to the associated recipient processor;
b) receiving location information from each recipient processor, the location information corresponding to the geographic location of the recipient processor from which the location information is received;*

c) determining, from the location information, that the geographic location of each of one or more of the recipient processors from which the location information is received is within a predefined location or region and

determining that each of another one or more of the recipient processors from which the location information is received is not within the predefined location or region;

d) requiring predefined additional information before providing each recipient processor determined to be within the predefined location or region access to first information by the provider processor; and

e) providing each recipient processor not determined to be within the predefined location or region with access to second information by the provider processor without requiring the predefined additional information, wherein one of the first and second information is a partial access but not full access information to a product or service and the other of the first and second

information is full access information to the product or service

f) wherein the additional information comprises current time information.

Again the closest support found are [0063]-[0064] and Fig 3 of the specification, published version US 20020023010 but they do not show clear support for the combination of steps d) e) f) and especially steps c) and f).

Dependent claims (41, 47-48 and 50, 56-58) of claims 40 and 49 are rejected based on their dependency.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 59-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 60:

(New) A method as recited in claim 59, wherein the encrypted form of the first information can be decrypted using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to a conjunction of location information for one or more of the recipient processors, but not all of the recipient processors, and current time information.

It's not clear what "current time information" refers to. Changing to "to a conjunction of location information and current time information for one or more of the recipient processors, but not all of the recipient processors." will improve the claim.

Claim 61:

Same issue as for 60 with "and identification information".

Claim 59:

The phrase *"that can be decrypted using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to location information for one or more of the recipient processors, but not all of the recipient processors, to allow each of said one or more of the recipient processors, but not all of the recipient processors, to use location information provided by its associated positioning system to form a decryption key for properly decrypting the encrypted first information."* in

providing.. access to first information in encrypted form "that can be decrypted using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to location information for one or more of the recipient processors, but not all of the recipient processors, to allow each of said one or more of the recipient processors, but not

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all of the recipient processors, to use location information provided by its associated positioning system to form a decryption key for properly decrypting the encrypted first information."

is indefinite.

The scope of the claim is not clear as to whether the first information is actually being decrypted, i.e. is there a decrypting step being claimed?

"properly decrypting" is indefinite : what is proper and what is not?

Claims 60-64 are rejected as dependents of claim 59 based on the dependency.

6. Interpretation of claims 59-61 for prior art purposes:

Claim 59 recites:

(Currently Amended) A method for controlling the distribution of information from an information provider processor to a plurality of recipient processors on a communications network, based on the geographic locations of the recipient processors, the method comprising:

a) connecting the information provider processor for communication on the communication network with the plurality of recipient processors that each have an associated respective positioning system for providing location information to the associated recipient processor; the location information corresponding to the geographic location of the associated recipient processor;

b) providing each recipient processor access over the communication network, by the information provider processor, to first information in encrypted form that can be decrypted using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to location information for one or more of the recipient processors, but not all of the recipient processors, to allow each of said one or more of the recipient processors, but not all of the recipient processors, to use location information provided by its associated positioning system to form a decryption key for properly decrypting the encrypted first information.

In 59 the last step is providing access. The rest of the limitation "*that can be decrypted using a decryption keyfor properly decrypting the encrypted first information.*" does not impact the manipulative step of providing access. Giving access does not equate to being able to read it (decrypt). Basically the action looks just like giving access to a file like browsing and

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opening up a directory or page with that file. Even if the limitation is given patentable weight, the whole limitation does not impact the manipulative step of giving access. Similarly for the additional limitations in claims 60-61.

In other words, for 59-61, for step b) the prior art only needs to disclose b) “providing each recipient processor access over the communication network, by the information provider processor, to first information in encrypted form”.

7. Interpretation of claims 62-64 for prior art purposes:

Claim 62-64 :

62. (New) A method as recited in claim 59, further comprising configuring each respective recipient processor to apply a decryption routine on the encrypted first information using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to location information for the respective recipient processor, to attempt to decrypt the encrypted first information.

63. (New) A method as recited in claim 59, further comprising configuring each respective recipient processor to apply a decryption routine on the encrypted first information using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to a conjunction of current time information and location information for the respective recipient processor, to attempt to decrypt the encrypted first information.

64. (New) A method as recited in claim 59, further comprising configuring each respective recipient processor to apply a decryption routine on the encrypted first information using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to a conjunction of identification information and location information for the respective recipient processor, to attempt to decrypt the encrypted first information.

The additional step is **configuring the recipient processor to apply a decryption routine on the encrypted first information using a decryption key**. Applicant attempts to distinguish the 3 claims by the content of the key. However the issue is whether a generic encrypt/decrypt device would function the same whether the key had one type or meaning of value or another with the breadth of the claim as it is.

In other words, the prior arts needs only to disclose “configuring each respective recipient processor to apply a decryption routine on the encrypted first information using a decryption key (to attempt to decrypt the encrypted first information).” to disclose claims 62-64.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. **Claims 40-41, 47-50, 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bednarek et al., U.S. Patent No. 6,009,116, in view of Official Notice (s) and further in view of Moore US 7,124,190.**

Bednarek discloses:

An integrated receiver decoder (IRD), commonly called a set-top box, has a global positioning system (GPS) receiver. The GPS receiver checks to see if the IRD is at an authorized location and allows descrambling of video signals only if the location is authorized. A central access control system, remote from the customers/viewers, has a high quality GPS receiver and sends some GPS data in the transmission medium used to send video signals to the customers. The set-top box, referred to as a customer access control, establishes different geographic restrictions on different of various video signals. Location-specific signals require that the set-top box be at a single fixed location for descrambling. Region-specific signals are accessible only if the set-top box is in a geographic region authorized for reception, there being several such regions. Large area signals are accessible anywhere within a large area including the regions. Region-exclusion signals are accessible only if the set-top box is outside of one or more regions where reception is not allowed.

Relevant Figures:

See Figures 1 (system level); 2 (user device; item 54 shows GPS); 7 (subscription system, definition of regions, identification of user device) , 8 (geographic and non geographic access control attributes) , 12 (determination whether STB within defined boundaries using GPS), 14 (determination of STB in one of the defined regions), Fig 15 (overlapping regions).

Thus, for claims 40, 49, 58:

Bednarek discloses:

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A method for controlling the distribution of information from an information provider processor to a plurality of recipient processors on a communications network, based on the geographic locations of the recipient processors (see e.g. abstract; Figure 1, item 16 (GPS receiver); item 16: conditional access system; Figure 7 and their associated texts), the method comprising:

associating a respective positioning system with each respective recipient processor for providing location information to the associated recipient processor (see e.g. abstract; Figure 1, item 16 (GPS receiver); item 16: conditional access system; Figure 7 and associated text);

receiving location information from each recipient processor, the location information corresponding to the geographic location of the given recipient processor from which the location information is received (see at least abstract; Figs. 1 and 7 and associated text; (col. 16 lines 28-32);

determining, from the location information, that the geographic location of each of one or more of the recipient processors from which the location information is received is within a predefined location or region and determining that each of another one or more of the recipient processors from which the location information is received is not within the predefined location or region;

(interpreted as determining, from the location information, whether the geographic location of the each recipient processor from which the location information is received is within or without a predefined location or region (e.g. abstract; col. 16 lines 33-46; e.g. Figs. 7 and associated text; or e.g. Figure 8 items 426, 430 and associated text).

Claims 40, 49 further claim:

a) requiring predefined additional information before providing each recipient processor determined to be within the predefined location or region access to first information; and providing each recipient processor not determined to be within the predefined location or region with access to first information without requiring the predefined additional information (as recited in claim 40);

or

*b) requiring predefined additional information before providing each recipient processor determined to be within the predefined location or region access to first information; and providing each recipient processor not determined to be within the predefined location or region with access to **second information** without requiring the predefined additional information, **wherein one of the first and second information is a partial access but not full access information to a product or service and the other of the first and second information is full access information to the product or service** (as recited in claim 49);*

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Thus claim 40 is directed to, for a customer within a region, giving access to the 1st information with required additional information; and for one determined to be outside the region the 1st information can be accessed without required additional information. For claims 49 and 59, the 1st information is partial but not full access information, and the second information is full access information.

As stated in the last Office Action, BEDNAREK teaches a sports event can be blocked inside the city where the event takes place and not outside such defined boundaries (e.g. col. 23 lines 59-62: sports event excluded from region R2 of Figure 14; Figures 7, 14 and associated text; col. 23 lines 30-52: locations restrictions—also citations below).

As to claim 40, the sports event information is considered the 1st information.

Thus BEDNAREK teaches free (not blocked) access to this 1st information outside the predetermined area and no access to 1st information inside the area (e.g. event city). Since BEDNAREK also teaches each signal conditioned on location can also have other non-geographic conditions attached thereto, e.g. such as pay per view (ppv), (i.e. “requiring predefined additional information before providing access to.. information”) (see e.g. col. 3 lines 59-60: payment for service information required ;e.g. Figure 8 items 424, 430 and associated text), thus it would have been obvious to one having ordinary skill in the art at the time of the invention (herein a “PHOSITA”), in view thereof, to charge ppv fees to those within the event city who desire the convenience of viewing the event from their home. Event promoters and affiliates would be motivated to provide such ppv option to meet such demand (otherwise customers would not have had the viewing opportunity because of the blockage), and since it is a source of revenues. *(In fact, BEDNAREK does disclose pay per view or paid sports premium channel broadcast in a region when an event is blacked out, see e.g. col. 23 lines 59-62).* In this scenario, claim 40 is met, since the required additional information within the event city is payment information.

As to claim 49, the whole programming content including the sports event (i.e. including news other channels etc...) is considered the claimed full access information (also the claimed “second information”). The whole programming content minus the sports event is considered the claimed “partial but not full access information to a service” (also the claimed “first information”).

Thus BEDNAREK teaches free (not blocked) full access information outside the predetermined area (event city) and partial access information inside the area (e.g. event city).

As stated in the last Office Action, “*Region-exclusion signals are accessible only if the set-top box is outside of one or more regions where reception is not allowed.*” (Bednarek, abstract) means that there is partial access to information (content) inside the region where the exclusion applies, **and full access outside that region.** See also, e.g. col. 23 lines 59-62: sports event excluded from region R2 of Figure 14, reads on partial access within the region R2, full

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access outside R2. Also see col. 21 lines 33-36, (discussed in connection with Figure 12): partial access.

*(Also see e.g. Figures 7, 14 and associated text, col. 23 lines 30-52: locations restrictions) (region exclusion signals (e.g., sports event may be shown in areas only outside of the city, area, or state in which the event takes place: access to some content **excluding sports event reads on partial access, within the region e.g. city where event takes place; while full access, i.e. content including sports event, is provided outside the city region)**)"*

Since BEDNAREK teaches each signal conditioned on location can also have other non-geographic conditions attached thereto, e.g. pay per view (ppv), as explained for claim 40, it would have been obvious to a PHOSITA, to charge ppv fees to customers who would want to view the blocked event from their home, for additional revenues to event promoters, while meeting customer demand. *(In fact, BEDNAREK does disclose ppv in a region where an event is blocked out, see e.g. col. 23 lines 59-62).*

Further, Official Notice is taken that it is old and well-known some sports events such as the Olympic Games are made of many events, each fetching a viewing fee.

In view of Benarek, it would have been obvious to a PHOSITA, the Olympic Games events would have been blocked in the city where they take place.

It is interpreted, in an Olympic Sports events scenario, that whole programming content (e.g. news etc...) including all the Olympic Games events is the claimed full access information (also the claimed "second information"). The content minus any Olympic Games events is considered the claimed partial access information (also the claimed "first information").

A customer within an Olympic Games city where all such events are blocked might want to buy just one event, e.g. Event A. This would read on partial access since e.g. Games B to Z are blocked. Yet "predefined additional information "(payment for Event A) is required. A customer outside the city would have full access (to all programming content including all Olympic Games events) without having to give the required additional information (payment for event A). In this scenario, claims 49 and 59 are met.

BEDNAREK teaches not blocking (i.e. giving free) content such as sports events outside the event city. Inside the event city, where the content is blocked and more valuable to residents, in view of Bednarek's teachings cited above, it would have been obvious to charge a pay per view fee to meet demand and to raise revenues. In fact, BEDNAREK discloses such pay per view in blocked events areas. See e.g. col. 23 lines 59-62.

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(**Note: for claim 49**, though not needed under the above interpretation of claim 49, as stated in last Office Action, **BEDNAREK also teaches** (another scenario) **wherein the first information is giving full access to a service:**

(*"Region-specific signals are accessible only if the set-top box is in a geographic region authorized for reception, there being several such regions."* (abstract) *reads on full access within the region, partial access outside the region. Also see e.g. col. 21 lines 29-33 (discussed in connection with Figure 12) reads on full access.*

As to the limitation of no requirement of time outside a predetermined region, and requirement being a time inside a region, the requirement of time is interpreted as used for decrypting encrypted content.

BEDNAREK teaches paying inside an event area and not paying outside of it.

Because content is free outside of event area it would be obvious there is no fear of thievery thus no need for enhanced encryption of the content. Inside, content is restricted to paying customers only, thus it would be obvious there would be a need for enhanced security of the content against thievery.

Bednarek discloses col. 8, lines 13-26, time data associated with GPS data: "ephemeris data" (GPS code includes **rate of time** (velocity) to determine the position of the object or device.

BEDNAREK discloses remote moving devices (e.g. col. 20 lines 51-58: STB is movable and needs to determine in what region it's located; see e.g. Fig. 12 and associated text). BEDNAREK also teaches data encryption (e.g. Fig 5, item 387 and associated text, e.g.: "key 387 for descrambling the video, audio and data programming exits the container. This key is the correct key only if all authorization criteria including the GPS position criteria have been met.).

BEDNAREK does not specifically disclose encryption key including time data.

However, Moore US 7,124,190, col. 5, lines 21-32 discloses digital certificates or encryption keys can add complexity, and thus security to the system by adding a multi-factor authentication, such as a token or GPS data.

Moore col. 5, lines 21-32:

*Digital certificates add to the complexity of compromise, especially for "man in the middle" attacks where an interloper poses to be the client to the supplier, and the supplier to the client. **Because encryption keys can be copied if inadequately protected, adding a multi-factor authentication, such as a token***

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*or GPS would also add to the **complexity** of compromise. If a multi-factor authentication scheme such as SecurID.TM., Cryptocard.TM., or another system is used in conjunction with the exchange, it would also add to the security.*

Thus it would have been obvious to a PHOSITA to add Moore's *multi-factor authentication, including GPS data* to Bednarek to provide more complexity i.e. to add to the system security. Since BEDNAREK teaches validation of location of STBoxes, that GPS data includes location and time data, it would have been obvious to add the location and time data in the encryption key for the complexity and enhanced security advantage taught by Moore. Further since as discussed above enhanced security inside Bednarek's event area is needed, thus it would have been obvious to a PHOSITA to require an additional requirement being the time to provide such enhanced secured data using the encryption/decryption technique taught by Moore.

Claims 41 and 50:

Bednarek further implicitly discloses wherein requiring additional information comprises communicating a **query** from the provider processor to each recipient processor determined to be within the predefined location or region for the additional information (implicitly at least the user device ID is requested by the system).

Claims 47 and 56:

Bednarek in view of Official Notice and Moore disclose the methods of claims 40 and 49 and further discloses wherein receiving location information comprises receiving location information over the network by the provider processor and determining comprises determining, **by the provider processor**, whether the geographic location of the given recipient processor is within a predefined location or region (see at least Figure 1 item 16 and associated text; e.g. col. 7 lines 56-59).

Claims 48 and 57:

Bednarek in view of Official Notice and Moore disclose the methods of claims 40 and 49 and further discloses receiving location information comprises receiving location information by the given recipient processor (e.g. col. 20 lines 51-58: STB is movable and needs to determine in what region it's located; see e.g. Fig. 12 and associated text) and determining comprises determining, **by the given recipient processor**, whether the geographic location of the given recipient processor is within a predefined location or region (citations above; also see e.g. col. 21 lines 51-57))

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 59-64 are rejected under 35 U.S.C. 102(b) as being anticipated by Teare et al., US 5243652.

Teare et al., US 5243652 discloses Location-sensitive remote database access control involving many mobile nodes (col. 2 line 37)

Relevant excerpts:

Abstract

*A communication system includes a remote mobile node which acquires time-correlated data of its actual position from a global positional system (GPS), and securely transmits the information as a position history to a central facility. The mobile node includes encrypted programming material such as copyrighted video. At the central facility, a comparison is made between the received position history and predetermined signature data representing acceptable time-position histories. **If a positive match is detected, a decryption key associated with the matched history is forwarded to the mobile node for decoding of the encrypted programming material.***

Brief Summary

This invention relates to video control systems and, more particularly, to a system for providing secure data communications with a mobile node.

Brief Summary

The present invention concerns a communication system comprising a remote mobile node including encrypted programming material, and a central facility. The central facility includes storage means for storing predetermined signature data each associated with a correspondingly respective code decryption key, wherein said signature data includes position and time information. The mobile node includes receiver means for acquiring actual position information on said

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*mobile node and storing said acquired position information, and transmission means for communicating said position information to the central facility. The central facility further includes means for receiving and storing said position information as a location history, and means for comparing the location history to said predetermined signature data, and forwarding **the corresponding key to said mobile node if the comparison satisfies a match condition.***

col.2 lines 11-26:

A remote node 11 is a mobile unit where encrypted signals reside. In a preferred embodiment, the remote node is an aircraft, and the signals are video program material such as movies used as in-flight entertainment by the airline industry. The programming information is not limited to video material, as it should be obvious to those skilled in the art that data programming material may also be used. Additionally, the node 11 may include other mobile units, including terrestrial vehicles. The remote node 11 is equipped with a suitable receiver for acquiring its three-dimensional position information, namely latitude, longitude, and elevation, from a positioning system 10. One such suitable receiver is the Admiral GPS offered commercially from Micrologic, 9610 Desoto Avenue, Chatsworth, CA 91311.

col.2 lines 27-35:

The positioning system 10 may, for example, be Loran or GPS (Global Positioning System), a satellite navigation system. The GPS is presently available, and provides latitude, longitude, and altitude information on a worldwide basis through a standard digital interface, with updates every second. The position information is provided in these systems on a periodic basis, although the present invention is applicable to continuous information delivery systems.

col.2 lines 36-49:

*The central facility 12 includes predetermined system information defining signature data for remote nodes which indicate acceptable location histories for when authorization may be granted to the node. **For example, the central facility may only authorize viewing of the encrypted video signal on an airplane if the plane is over 25,000 ft. altitude and over a predesignated area. Thus, the signature data for the airplane includes position information correlated with time since the predetermined flight plan for a plane includes both position and time information.** The authorization would be accomplished by transmission of a code decryption key from the central facility 12 to remote node 11, where the encrypted signal would be decoded with the key.*

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col.2 lines 50+:

Although in FIG. 1 there is indicated a single central facility 12, there may be a plurality of such facilities interconnected by appropriate networks. These facilities would reside in a region 13-1 representing fixed sites. Furthermore, block 11 may include a plurality of remote mobile nodes, with region 13-2 representing the mobile section of the communication system, namely the remote mobile nodes and the position-sensing system 10. It should be obvious to those skilled in the art that the present invention is easily adaptable to include a plurality of mobile nodes with suitable reception, signal processing, and transmission equipment at the central facility 12. The specific mechanism for granting authorization is detailed below.

(col. 2 line 64 to col. 3 line 3):

*The remote node 11 is configured with a means for storing the position information which is acquired from positioning system 10. Preferably, the storage means includes a secure non-volatile memory, and is managed with suitable **software which can process the received position information and organize it into a suitable format with timing data for further transmission to the central facility 12.***

(col.3 lines 19-29):

*The central facility 12 is adaptably configured to receive and store the location history being transmitted from node 11. **The facility 12 includes a database having a plurality of location histories (i.e. signature data) stored therein which correspond to acceptable time-position information for node 11.** Each location history is associated with a respective unique code decryption key which will decode the encrypted signal at node 11 only if the location history received from node 11 matches the predetermined location history associated with the key.*

(col.3 lines 30-62):

*Accordingly, facility 12 includes a means for comparing the received location history from node 11 to the predetermined location histories in the database. If a match condition is satisfied, then authorization is granted, and the key associated with the matched predetermined history is released for transmission to node 11. The node 11 is suitably equipped with a signal processing system for decoding the encrypted signal using the received code decryption key. **Examples of video control systems are found in U.S. Pat. Nos. 5,046,090 and 5,046,092, incorporated herein by reference.** If a match condition is not satisfied, then viewing authority is not granted, which may imply that unauthorized access to the encrypted signal is being attempted at node 11. The facility 12 may, for example, be responsive to a request signal from node 11 to commence comparison of the received and predetermined location histories.*

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The position history from the GPS represents a sequence of distinct time-position values (i.e. latitude, longitude, elevation) corresponding to the instantaneous position of the mobile node over a period of time. Consequently, the history is a sequence of time-position data which tracks the route of the mobile node. The security supervisor managing the system will determine the match condition for allowing release of a decryption key. In particular, the supervisor will determine the number of actual time-position values in sequence which must match a like sequence of the predetermined signature data for a match to occur. For example, in a highly secure system, an approved route may have a lengthy series of time-position values which must be matched for a node to be considered valid.

col.3 line 63 to col. 4 line 9:

This invention makes use of readily available technology to provide additional controls on secure data communications. The remote or mobile system node is coupled to a position sensing receiver such as GPS or Loran, allowing position tracking in a secure manner. This allows information to be sent only to a requesting destination that is in a geographical position acceptable to the sender. One specific application is for delivery of the keys for video tape descrambling on-board aircraft, where the keys are to be released only when the aircraft is in appropriate airspace. This would be used to reduce the risk of the information guarded by the keys (the copyrighted movie in this case) from being illegally copied and distributed when the aircraft is on the ground, especially at overseas destinations.

(col.4 lines 10-21)

The invention takes advantage of small position errors associated with each GPS, namely time and position. This assures a unique position indication from two systems (mobile node and central facility) with identical location histories, thereby making it very difficult for a potential pirate to emulate previous geographical position data. The central facility is equipped with a database that is configured to analyze present and previous position data with predetermined system constraints to determine if viewing authority is granted, which means that the hardware impact on the remote or mobile nodes is minimal.

Claim 4

...storage means at said central facility for storing predetermined signature data each associated with a correspondingly respective code decryption key, wherein said signature data includes position and time information;

Claim 5:

...transmitting said signature data to a central facility having predetermined time-position history sequences each associated with respective code decryption keys; ...

Thus Teare discloses:

59. (Currently Amended) A method for controlling the distribution of information from an information provider processor to a plurality of recipient processors on a communications network, based on the geographic locations of the recipient processors, the method comprising:

a) connecting the information provider processor for communication on the communication network with the plurality of recipient processors that each have an associated respective positioning system for providing location information to the associated recipient processor; the location information corresponding to the geographic location of the associated recipient processor (abstract excerpts above, Fig 1 and associated text) ;

b) providing each recipient processor access over the communication network, by the information provider processor, to first information in encrypted form that can be decrypted using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to location information for one or more of the recipient processors, but not all of the recipient processors, (abstract excerpts above, Fig 1 and associated text: only the remote nodes (e.g. a specific airplane) at the right location and right time get the encrypted content while other nodes do not) to allow each of said one or more of the recipient processors, but not all of the recipient processors, to use location information provided by its associated positioning system to form a decryption key for properly decrypting the encrypted first information.

(see e.g. TEARE claim 5 above: “to allow each of said one or more of the recipient processors, but not all of the recipient processors, to use location information provided by its associated positioning system to form a decryption key for decrypting the encrypted first information.” is interpreted as using location and time from the GPS to look up a decrypting key pre-stored or generated at an address location).

This is based on the instant specification at [0084]:

In yet other embodiments, the location information (in some embodiments, location information in conjunction with time information and/or identification information) may be used as part of an address or may be used to derive an address from a look-up table, address algorithm or the like, where the address corresponds to a memory location, network location or the like, at which the recipient processor may obtain a decryption key pre-stored or generated at the address location.

TEARE claim 5 above discloses such key look-up.

Alternatively, based on the interpretation above (see paragraph 6) TEARE only needs to disclose b) providing each recipient processor access over the communication network,

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by the information provider processor, to first information in encrypted form (which it does, at abstract, excerpts above, Fig 1 and associated text) to meet claim 59.

Claim 60. (dependent on claim 59): TEARE further discloses wherein the encrypted form of the first information can be decrypted using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to a **conjunction of location information** for one or more of the recipient processors, but not all of the recipient processors, **and current time information** .

Claim 61. (dependent on claim 59): wherein the encrypted form of the first information can be decrypted using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to a **conjunction of location information** for one or more of the recipient processors, but not all of the recipient processors, **and identification information**.

Alternatively, based on the interpretation above (see paragraph 6) TEARE only needs to disclose *b) providing each recipient processor access over the communication network, by the information provider processor, to first information in encrypted form (which it does) to meet claims 60 and 61.*

Claim 62-64:

62. (New) *A method as recited in claim 59, further comprising configuring each respective recipient processor to apply a decryption routine on the encrypted first information using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to location information for the respective recipient processor, to attempt to decrypt the encrypted first information.*

63. (New) *A method as recited in claim 59, further comprising configuring each respective recipient processor to apply a decryption routine on the encrypted first information using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to a conjunction of current time information and location information for the respective recipient processor, to attempt to decrypt the encrypted first information.*

64. (New) *A method as recited in claim 59, further comprising configuring each respective recipient processor to apply a decryption routine on the encrypted first information using a decryption key that includes or is composed of at least one value, number or parameter that corresponds to a conjunction of **identification information** and location information for the respective recipient processor, to attempt to decrypt the encrypted first information.*

As discussed in paragraph 6 above,

the additional step in claims 62-64 is **configuring** the recipient processor to **apply a decryption routine on the encrypted first information using a decryption key**. Applicant attempts to distinguish the 3 claims by the content of the key (location in 62; location and current time in 63; *identification information and location information for the respective recipient processor in 64*) However the issue is whether a generic encrypt/decrypt device would function the same whether the key had one type or meaning of value or another with the breadth of the claim as it is. **In other words, the prior arts needs only to disclose “configuring each respective recipient processor to apply a decryption routine on the encrypted first information using a decryption key (to attempt to decrypt the encrypted first information).” to disclose claims 62-64.**

TEARE discloses using a decryption key which is interpreted as applying a decryption routine thus reads on claims 62-64. (See citations, excerpts above).

Alternatively for 62 and 63, TEARE also discloses a decryption routine or key using location and time (citations, excerpts above).

12. Alternate rejection of claims 61 and 64:

Claims 61 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teare et al., US 5243652 in view of Official Notice (with e.g. Walker et al. US 5,046,090 as support).

Claims 61 and 64:

As discussed above, TEARE discloses a decryption routine or key using location and time (citations, excerpts above). TEARE does not disclose identification information in decryption routine or key. Official Notice is taken that using a device identification information (ID) in encryption/ decryption schemes is common, see e.g. in video control systems, Walker et al. US 5,046,090 has all kinds of keys including terminal ID (Fig 2).

Thus it would have been obvious to one having ordinary skill in the art at the time of the invention to add such Walker 's teaching to Teare's decryption key or routine having location and time data , for further enhanced security.

Response to Arguments

13. Applicant's arguments have been fully considered and they are persuasive as to amended claims 40, 49. Thus the previous prior art rejection of claims 45 and 54 are withdrawn. However new grounds of rejection are presented above.

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Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pirila US 6674860 B1 discloses Method and arrangement for managing a service in a mobile communications system.

Abstract :

*The invention pertains to a method and arrangement for managing a service in a mobile communications system, mobile station and an intelligent module in a mobile station. An idea of the invention is that the data needed in the mobile station for a mobile communications service are transferred in encrypted form to several mobile stations at a time. The encryption is based on a key which is transferred individually to mobile stations. Applied to mobile station location this means that the location of a mobile station is determined in the mobile station by **means of the timing difference of the signals received from at least two (preferably at least three) base stations and on the basis of the location data of said base stations**. The location data are transferred to the mobile station in encrypted form so that they can be utilized only by mobile stations to which the operator has delivered a **decryption key needed to decrypt the location** data. The decryption key is transferred preferably individually to each mobile station. Decryption may occur in an intelligent module of a mobile station, in which case no location data appear in a non-encrypted form outside the intelligent module, resulting in data confidentiality. If chargeability is the only requirement, decryption and location calculation may also take place elsewhere in the mobile station. **The decryption key can be changed, in which case the new decryption key is transferred to the mobile station advantageously periodically in conjunction with the location update procedure.***

*Claim 12. An intelligent module of a mobile station, comprising means for receiving from the mobile station encrypted information related to a service, characterized in that it also comprises means for decrypting said information by means of a decryption key and means for receiving said decryption key or **data needed to construct said decryption key from the mobile station related to a location update procedure.***

US 5659617 (Fischer) and US RE38899 E (Fischer) disclose Method for providing location certificates.

US 5754657 (Schipper et al.) discloses Authentication of a message source.

US 6370629 (Hastings et al.) discloses controlling access to stored information based on geographical location and date and time.

US 6674860 (Pirila) discloses Method for providing location certificates.

Kudo US 6381695 discloses Encryption system with time-dependent decryption.

Foladare et al. US 6134454, in system for maintaining personal communications information in a mobile communications system, discloses verifying a user location by location and time sent from user mobile device (col. 7 lines 33-46; claim 15).

US 5,046,092 to Walker et al. (video systems) discloses all kinds of keys.

Pensak US 6449721 B1 (Method of encrypting information for remote access while maintaining access control).

Kudo US 6816595 B1 discloses a system for creating a mini time key from a time key, a plurality of mini time keys are created within a unit time period.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh H. Le whose telephone number is 571-272-6721. The Examiner works a part-time schedule and can normally be reached on Monday-Wednesday 9:00-6:00. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, John Weiss can be reached on 571-272-6812. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-3600. For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314). Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Khanh H. Le/
Primary Examiner, Art Unit 3688